

# PATENT ABSTRACTS OF JAPAN

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H01M 8/12

(21)Application number : 06-206052

(71)Applicant : FUJIKURA LTD

(22)Date of filing : 08.08.1994

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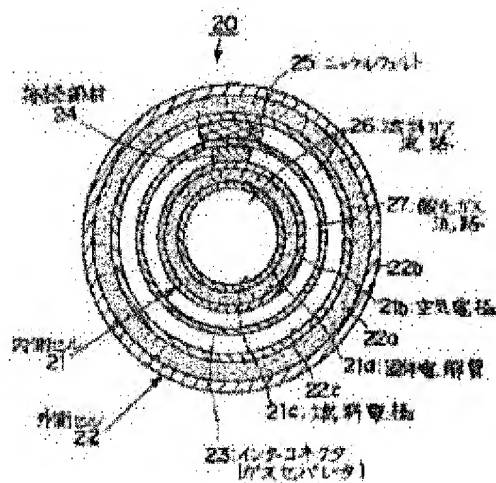
YAMAOKA SATORU

## (54) CYLINDRICAL LAYER-BUILT FUEL CELL

### (57)Abstract:

PURPOSE: To coaxially dispose a plurality of cylindrical cells.

CONSTITUTION: Let an inner cell 21 where an fuel cell 21c is formed in either one of the inner circumferential surface or the outer circumferential surface of a cylindrical electrolyte 21a, and an air electrode 21b is formed in either of the other sides, and an outer cell 22 be coaxially disposed at a specified interval, and concurrently a space between both the cells 21 and 22 is electrically connected with each other via an elastical conductive member 25. Each cylindrical cell is planned to be increased in output and stiffness, concurrently it is made easy to manufacture, and the occurrence of damages and faulty contact because of the difference in thermal expansion is also prevented.



# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 02-075167

(43)Date of publication of application : 14.03.1990

(51)Int.Cl.

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(21)Application number : 63-225164

(71)Applicant : MITSUI ENG & SHIPBUILD CO  
LTD

NIPPON HAKUYO KIKI KAIHATSU  
KYOKAI

(22)Date of filing : 08.09.1988

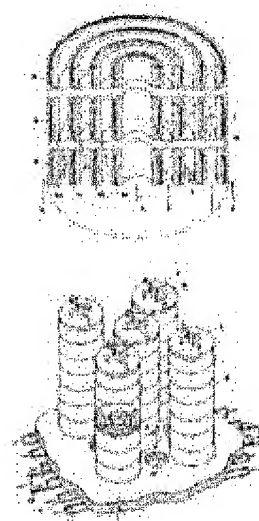
(72)Inventor : SHIMOZU MASATERU

## (54) FUEL CELL WITH SOLID ELECTROLYTE

### (57)Abstract:

PURPOSE: To have a fuel cell of high voltage, low current type by coupling together unitary cells in series, each of which consists of an oxygen electrode, solid electrolyte, and fuel electrode laminated on a gas penetrative base.

CONSTITUTION: Every three unitary cell units 18 consists of unitary cells 6a-6d with different dias. laminated concentrically. The coupling part of these unitary cell units lie on one plane, and these unitary cells 6a-6d are coupled together in series through a conductor 19 specially used for coupling, to constitute a fuel cell stack 16. In this constitution, the fuel F and air A flow through a flow path between every other unitary cells to come in contact with the fuel side electrode 4 and oxygen side electrode 3. Fuel stacks 16 are arranged at a constant spacing on a base board 7, and an air lead-in pipe 11, fuel supply pipe 12, and fuel exhaust pipe 13 are arranged below this base board 7. A fuel cell of high pressure, low current type is provided.



# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 03-095869

(43)Date of publication of application : 22.04.1991

(51)Int.Cl. H01M 8/24  
H01M 8/12

(21)Application number : 01-095425

(71)Applicant : TOKYO ELECTRIC POWER CO  
INC:THE

(22)Date of filing : 17.04.1989

(72)Inventor : OTA HIROMITSU

## (54) SOLID ELECTROLYTE FUEL CELL

### (57)Abstract:

**PURPOSE:** To enhance power generation efficiency per unit volume by constituting plural assembled cells of plural base tubes having different bore diameters and formed from body allowing fuel gas to pass through it, and concentrically laminating the plural assembled cells via spacers.

**CONSTITUTION:** A base pipe 1 is formed from a foaming body allowing fuel gas to pass through it in both horizontal and vertical directions, and a fuel electrode, a solid electrolyte, an interconnector/lead and an air electrode are provided on the side of the pipe 1 to form each single cell 2. The single cells 2 are arranged in the axial direction of the base pipe so that assembled cells are formed. A plurality of assembled cells formed by base pipes 1, 1', 1" of different pipe diameters are concentrically laminated via spacers 3, 3' and a spacer located between adjacent assembled cells forms a fuel or air circulation passage. Thus numerous single cells are stocked in a small cubage with high density.

